LICENSING CHECKLIST FOR SMALL LABORATORIES

RIA ONLY OR TOTAL ACTIVITY < 10 mCi
NO IODINATIONS

This checklist is to assist those applicants requesting licensure (or renewal) for small laboratories. Include the following information and/or descriptions noted below on the Application for Radioactive material License" form or attachments thereto. *General* information can be found in the "Guide for Applicants for a Radioactive Material License" form. These forms and others can be found on our RHB website at: **www.dhs.ca.gov/rhb. Title 17 California Code of Regulations can be ordered by calling 1-800-888-3600.** Please submit all information **in duplicate.**

Item 1.
a. Name of Applicant: Specify the name of the company or business entity responsible for the radiation safety program.

b. Mailing Address: Provide the mailing and billing address/contact. California only.

c. Phone, FAX number and e-mail address (optional**)**:

Item 2.
a. Type of Business: If government, indicate here. Provide the State Tax ID # (optional).

b. Location of Use: List all locations of use, storage and receipt. Include suite/room numbers/names, if applicable. Indicate the floor(s) of use if it's a multi-story building.

c. Application Type: Self explanatory.

Item 3
a. Nuclide: Specify isotopes to be used; (H-3, P-32, C-14, etc.)

b. Form: Specify chemical form to be used; (e.g. RIA kits, labeled compounds, or **"**any**"** form). Note that I-125 or I-131 will be limited to labeled compounds only.

c. Possession Limit: State the maximum inventory to be in possession at any one time (including expected radwaste).

d. Item 4. Proposed Use: Summarize the proposed uses and include typical amounts used per experiment. If planning to perform in-vivo studies and/or using volatile forms of radioactive material, use the medium/large lab checklist.

Item 5. Radiation Safety Officer and Users: Provide completed **"**Statement of Training and Experience" forms for the RSO, Alternate RSO and supervisory users only. Please note a minimum of six months of experience handling unsealed material (the type and quantity of radioactive material authorized under the license) is required.

Item 6. Radiation Detection Instruments:

Complete the table indicated under Item 6. Suggested instrumentation for nuclides typically used in small laboratories: Indicate the manufacturer and model of both the meters, probes, LSC and/or well counter, and all other instruments.

a. For P-32, S-35, and C-14, a ratemeter with a GM probe (or built in) with a window thickness not exceeding 2 mg/cm^2 should be used for direct surveys.

b. For I-125, direct surveys should be made with a thin sodium iodide detector for adequate efficiency.

c. For H-3 and C-14 only, area wipe survey samples can be counted in a liquid scintillation counter (LSC). Direct meter surveys are not appropriate for these isotopes.

d. Area and package receipt wipe test surveys for beta emitters can all be counted by LSC techniques, and gamma or X-ray emitters can be counted most efficiently by using a gamma well counter.

Item 7. Method, Frequency, and Standards Used in Calibrating Instruments Listed Above:

a. Provide the name of the authorized service company (including their radioactive materials license #) who will be calibrating the survey meters. You may commit to utilizing any other authorized service company in the future to avoid amendments involving such a change.

b. The frequency should be annually (as a minimum) and following service/repair or more frequently if recommended by the manufacturer.

c. Specify sources used for calibration of the liquid scintillation or gamma well counter. Indicate if these are received as exempt or should be included under Item 3 of the application listed by the manufacturer and model #. Commit to follow the manufacturer's calibration procedures when calibrating the LSC or gamma well counter.

Item 8. Personnel Monitoring and Bioassay Procedures: Individuals handling 1 millicurie or more of high energy (> 200 keV) beta or gamma emitters will be required to use extremity (finger ring) dosimeters. If a dosimetry program will be utilized, specify type (TLD, OSL or film), whole body and/or extremity, approved vendor, and frequency of exchange. You may commit to any other NVLAP approved organization to change the vendor without notifying us. Bioassays are not indicated for small laboratory uses.

Item 9. Facilities and Equipment:

a. Provide a facility diagram showing storage, receiving, use areas and waste storage area. Provide an overview diagram of the entire facility, and then identify the various rooms used and adjacent areas. Specify North and South on diagram. Outline restricted areas. Also indicate if there are other tenants in the same building that have a radioactive materials license (specify their license #). If there are other tenants in the building, specify the physical barrier used to prevent other tenants from entering your area.

b. Specify any shielding to be used, if applicable (material, thickness).

c. Describe any other safety related equipment used in isotope handling, e.g. safety glasses, tongs, lab coats, gloves, shoe coverings, etc.

d. Describe security provisions of all radioactive materials in use, storage and when it is delivered to the facility (10 CFR 20.1801 and 1802).

Item 10. Radiation Safety Program:

a. Provide the “General Safety Rules” which will be followed by all users of radioactive materials (see our sample list). Commit to providing an initial and annual refresher training on these topics to keep the users informed (this is also required by Section 30255 of Title 17).

b. Submit ordering, receipt, and inventory control procedures. Package receipt surveys should be done as appropriate for the nuclide(s) and quantities likely to be encountered. These surveys should include, as a minimum, checks for external package contamination and if damaged, verification that the final source container remains intact.

c. Commit to conspicuous posting of form RH-2364 (Notice to Employees) that will be/or has been supplied by the Department with the license and posting of radioactive material signs per 10 CFR 20.1902. Also commit to posting the license, emergency contact list, emergency and operating procedures, and State and Federal regulations or if not practical, post a notice stating where these items may be found.

d. Assure that containers, storage areas, rooms, and equipment in which radioactive materials are used are properly labeled in accordance with 10 CFR 20.1904.

e. Provide area survey procedures appropriate to the types and amounts of radionuclides proposed in the application. In general, daily surveys of work areas and personnel leaving the facility should be done (not recorded unless a positive result is found), and weekly or monthly-recorded surveys will be maintained for inspection. The following table summarizes typical frequencies expected:

QUANTITIES (STOCK CONTAINERS) IN USE	FREQUENCY
< 1 mCi (< 10 mCi H-3, C-14)	monthly
1 mCi to 10 mCi	weekly

These survey frequencies are for direct meter and area wipe surveys. You may commit to following the suggested survey frequencies (above) based on the amount of material in use. Most facilities have been able to use an action level of 200 dpm per 100 cm^2 removable activity limit and a 0.1 mR/hr (or twice bkg.) direct reading limit for decontamination. Identify the approximate location points on a diagram where periodic direct meter and area wipes surveys are/will be taken on the facility diagram. Note: The number should be commensurate with the size and scope of the program.

f. Keep all records for inspection by the Department (10 CFR 20 Subpart L).

g. Submit samples of *all* forms to be used.

Item 11. Effluent and Environmental Monitoring: This item is generally not applicable due to the small quantities considered for use. See Item 12 for disposal.

Item 12. a. If using the sanitary sewer system to dispose of radioactive waste, provide estimated monthly water usage by the laboratory (from a water bill) and calculate expected concentrations for each proposed isotope and demonstrate meeting the unity rule. Compare these values with those in Table 3, Appendix B, 10 CFR 20.2003.

b. For solid waste packaging, consult with a qualified radioactive waste broker for detailed information. Provide proposed waste brokers name and radioactive materials license number. Or you may commit to utilizing any licensed waste broker to avoid amendments involving such changes.

c. If you wish to use the method of decaying out the waste (isotopes with physical half lives less than 65 or 90 days), specify the time to decay (7 or 10 half lives), surveys prior to disposal, and label removal or defacement. See decay-in-storage checklist for details.

Item 13. Decommissioning and Decontamination Plans: Commit to a thirty-day (30) prior notification of your intent to vacate or release an area for unrestricted use. Also you will provide the Department an adequate clearance survey (Title 17 CCR 30256) that demonstrates compliance with the dose limits and exposure rates found in 10 CFR 20.1301. Releasing a restricted location or area needs to be approved by the Branch before it is released for unrestricted use (to members of the public).

Item 14. Certificate: The application should be signed by an official who can commit policy for the licensee identified in Item 1 of the application, (such as the President, Vice President, CEO, etc. with legal and financial authority).